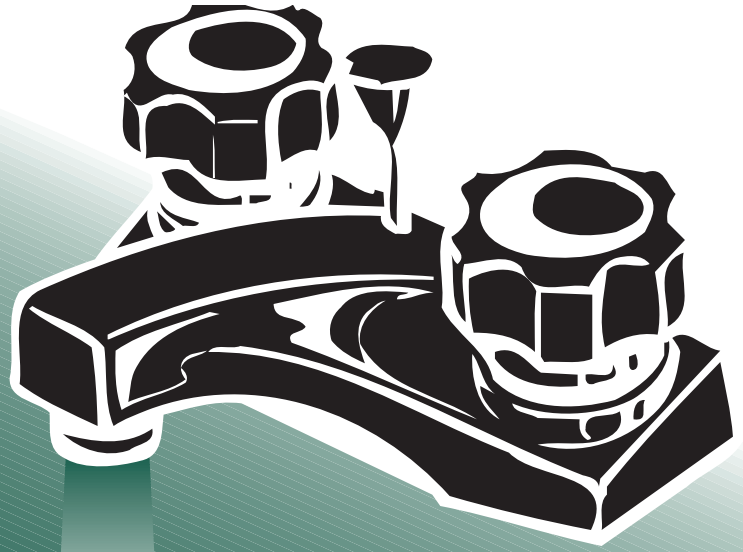

AN OWNER'S/OPERATOR'S HANDBOOK FOR

Safe Drinking Water

For Transient Noncommunity Public Drinking Water Systems

WISCONSIN DEPT. OF NATURAL RESOURCES

PRINTED ON RECYCLED PAPER

Wisconsin Department of Natural Resources

PUB-DG-061 2000 jg

AN OWNER'S/OPERATOR'S HANDBOOK FOR

Safe Drinking Water

FOR TRANSIENT, NONCOMMUNITY
PUBLIC DRINKING WATER SYSTEMS

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Introduction

Safe Drinking water—we take it for granted, but everyone in the state depends on it. Safe water is essential for health, business prosperity, and community growth.

As an owner/operator of a public water supply system, your job is to provide safe water to all users. Preventing contamination and planning for future system needs will help you accomplish this.

Wisconsin's Department of Natural Resources (DNR) oversees construction and operation of public water systems to make sure water is safe to drink and use. However, as legal manager of the water system, **it is your job to monitor drinking water quality**. This guide will help you develop, assess, and maintain a quality water supply. This guide highlights where you must meet legal obligations and can help you provide consumers with safe drinking water.

What are the safe drinking water requirements and where do they come from?

The Safe Drinking Water Act (SDWA) of 1974 is a federal law that sets health and safety standards for public drinking water in the United States. It was the nation's first comprehensive drinking water law. Under the law, the U.S. Environmental Protection Agency (EPA) sets national standards for drinking water quality. All states must meet these standards.

In 1996, Congress passed the first amendments to the SDWA in 10 years. Their focus was to prevent contamination of public water supplies. They also strengthened public health protection, and allowed for increased public involvement.

Transient noncommunity water systems will be affected by these amendments. Information is available through the DNR, as well as other sources. (Some are listed in the back of this handbook.)

What systems are regulated by the Safe Drinking Water Act?

The Safe Drinking Water Act governs *public* water systems. Both EPA and DNR define a public water system as one that provides water for human consumption through piping and provides water to at least 15 service connections. Or, it regularly serves an average of at least 25 people daily for at least 60 days per year. There are four types of Public Water Systems in Wisconsin. They are municipal, other-than-municipal, nontransient noncommunity, and transient noncommunity water systems.

This booklet is designed for Transient noncommunity systems (TN). These water systems serve at least 25 people at least 60 days of the year. They do not serve the same 25 people over 6 months of the year. Examples of these systems include motels, restaurants, parks, taverns, churches, and gas stations.

Note: The word "serve" means that water is available for serving, not that people are necessarily known to drink the water.

Who do I call for information?

The DNR has five regional offices statewide to serve you. Call the nearest one to talk to a drinking water specialist assigned to your county. They can answer your water system questions. Look below for regional office addresses and phone numbers. The DNR Drinking Water staff directory is also found on the Internet at: http://www.dnr.state.wi.us/org/water/dwg/regionstaff.htm.

Northern Region
Department of
Natural Resources
810 W. Maple Street
Spooner, WI 54801
(715) 635-2101

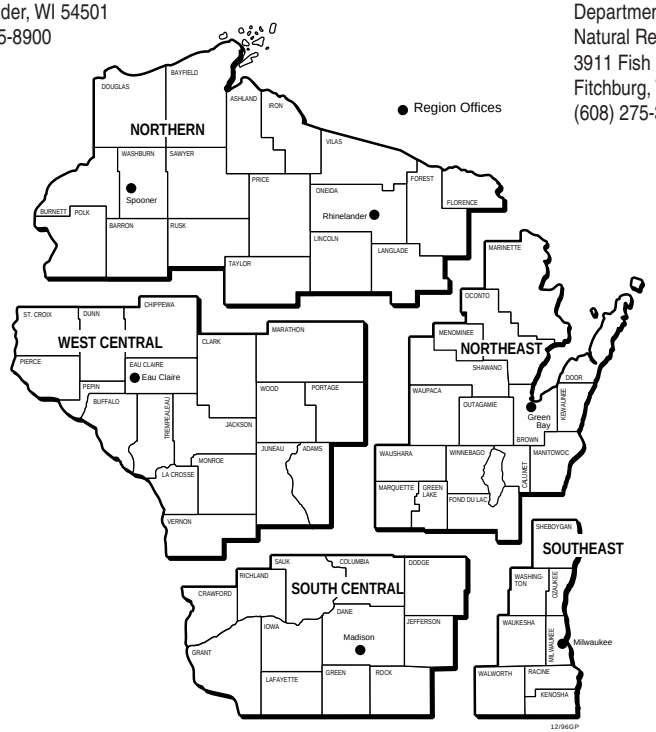
Department of
Natural Resources
P.O. Box 818
Rhinelander, WI 54501
(715) 365-8900

West Central Region
Department of
Natural Resources
P.O. Box 4001
Eau Claire, WI
54702-4001
(715) 839-3700

Northeast Region
Department of
Natural Resources
1125 N. Military Avenue
P.O. Box 10448
Green Bay, WI 54307
(920) 492-5885

Southeast Region
Department of
Natural Resources
2300 N. Dr. Martin Luther
King Jr. Dr.
P.O. Box 12436
Milwaukee, WI 53212
(414) 263-8500

South Central Region
Department of
Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711
(608) 275-3266



What is the Wisconsin Department of Natural Resources' responsibility?

The Department of Natural Resources oversees the Safe Drinking Water Act for Wisconsin. DNR works with water supply systems to protect the health and welfare of users, and to protect our state's water resources. Below is a list explaining DNR's duties.

- **Approvals:** DNR staff approves plans for water treatment.
- **Technical Assistance:** DNR Drinking Water Specialists help public well operators on compliance issues for the SDWA. *The Department is working towards establishing good working relationships with systems to help prevent compliance problems before they occur.*
- **Inspections:** DNR staff inspect water systems to evaluate them for the risk of contamination, well code compliance, and to ensure the well and pressure system are in good sanitary condition. The technical, managerial, and financial ability of public water systems to provide safe drinking water consistently and cost-effectively will also be evaluated.
- **Enforcement:** DNR staff enforces both state SDWA regulations so that all systems are in compliance with drinking water quality and water system installation regulations.

What are your responsibilities?

You must provide drinking water that meets state and federal drinking water standards. A table listing Maximum Contaminant Levels (MCL) can be found in the reference section at the end of this handbook. The basic requirements include:

Sampling—Annual samples must be taken for bacteria & nitrate. A small number of Transient systems sample quarterly for bacteria & nitrate. A one-time nitrite sample is required. Although in cases where nitrite levels are elevated, more frequent nitrite sampling may be required.

Most Transient noncommunity water systems receive water sampling kits annually from the DNR usually between January and May. Sampling lab slips are sent to facilities that use a lab other than the State Laboratory of Hygiene. After you get the kit, you should sample as soon as possible to meet the Safe Drinking Water Act requirements. Please mail your samples **within two weeks** of receiving the sampling kit, so that the mailer may be used again for another water system. Everyone benefits from the cost savings realized by reusing the sample kit mailers.

The DNR has contracts with Public Health Departments in 13 counties to sample water at transient noncommunity water systems. **Transient noncommunity systems in the following counties will not receive a water testing kit in the mail. A certified county sanitarian will take your water sample for you.**

Dane	Kenosha	Portage
Douglas	LaCrosse	Rock
Dunn	Marathon	St. Croix
Eau Claire	Pierce	Waukesha
		Wood

State-owned facilities are not covered by the county contracts.

If your facility changes owners or acquires a new address/fire number, please contact the nearest DNR regional office (see page 7) to let them know about the change, or complete the form on page 20 in this pamphlet. This will ensure the kit is mailed to the correct person. To test early, request a kit from the DNR by calling 608/267-2451.

- Use and complete the laboratory testing slips included with the kit.
- If the State Laboratory of Hygiene performs the tests, results will be sent electronically to the DNR with a paper copy sent to you.
- If a private laboratory is used, **you must provide the laboratory with the DNR lab slip that is sent to you.** The owner is responsible for getting a copy of the test results to the nearest Regional DNR office (see page 7 for office locations). Keep a copy of test results for your own files!

For Seasonal systems—(a system only open for part of the year), kits are usually mailed at least 30 days before you open. Take the water samples when the well is operating for the season, and if possible, within 30 days **before** serving water to the public. If the kit doesn't arrive before you open, the owner/operator can request a kit from the DNR by calling 608/267-2451.

Well Construction—Ensure that your water system is built and maintained according to state standards.

Noncommunity water well and pump systems must meet construction requirements of Wisconsin Administrative Code NR812, Well Construction and Pump Installation (Wisconsin Well Code). To meet these requirements, you should work with licensed water well or pump installation contractors before making modifications to your water system. You should also discuss your plans with the DNR drinking water specialist in your area.

Transient noncommunity water systems must gain approval to install a water treatment device used to treat a health-related contaminant. Contact the DNR if you have questions about treatment approval requirements.

1. **Maintenance—**Maintain your water system in good sanitary condition to provide a safe, dependable water supply.
2. **Record Keeping—**Keep copies of sampling results and inspection reports for your own records. You'll want these as a historical record in case you decide to sell your property or have customer questions. Records can also help prove you sampled in case there are reporting errors.

Collecting Samples for Bacteriological and Nitrate and Nitrite Tests

Step 1

Complete nitrate and bacteriological test request forms with a ballpoint or waterproof pen. Note: the sample cannot be processed without a collection date and time.

Step 2

Fill both bottles. For the bacteria sample, follow the standard sterilization and collection process outlined on the back of the bacteriological form. Securely tighten caps. Nitrate should be collected at the entry point and bacteria in the distribution system if possible. If both need to be collected from the same faucet the bacteria sample should be collected first.

Step 3

Place each bottle in a small zip-lock bag. Place bagged nitrate bottle in one of the large zip-lock bags and fill at least $^{3}/_{4}$ full with ice and seal.

Step 4

Place ice bag/nitrate bottle and bacteria bottle in the Styrofoam shipper. ***do not*** tape Styrofoam lid.

Wisconsin State Laboratory of Hygiene
Environmental Health Division
2601 Agriculture Drive
P.O. Box 7996
Madison, WI 53707-7996
800-442-4618
or 608-224-6202

Step 5

Place test request forms in second large zip-lock bag and place on top of styrofoam shipper.

Step 6

Close box so State Lab of Hygiene address label and "priority mail" sticker shows. Secure cardboard box with tape. Ship by priority rate* and mail on Monday, Tuesday or Wednesday only.

Kit content:

- 2 bottles (1 for bacteriological test and 1 for nitrate test)
- 2 test request forms (1 for bacteriological test and 1 for nitrate)
- 2 small zip-lock bags (1 for each bottle)
- 2 large zip-lock bags (1 for ice & 1 for forms)
- 1 Styrofoam shipper with cardboard box

**** Warning:*** The water sample must be analyzed within 48 hours of collection. In most cases, shipping by priority rate mail will meet this requirement. However, there may be areas of the state where a higher shipping rate is needed to meet this requirement. Check with your local post office for the proper delivery rate or use a different carrier to meet this requirement.

What sampling is required?

The table below shows the major groups of drinking water contaminants. It also includes the minimum frequency that transient public water systems must test for them. If a contaminant is detected, you must follow retesting procedures and strict instructions for informing the public about the problem. Your DNR contact person will help you with a public notice. Retesting and public noticing is continued until the system can reliably show that it is free of contamination.

General Sample Monitoring Schedule for Transient noncommunity systems

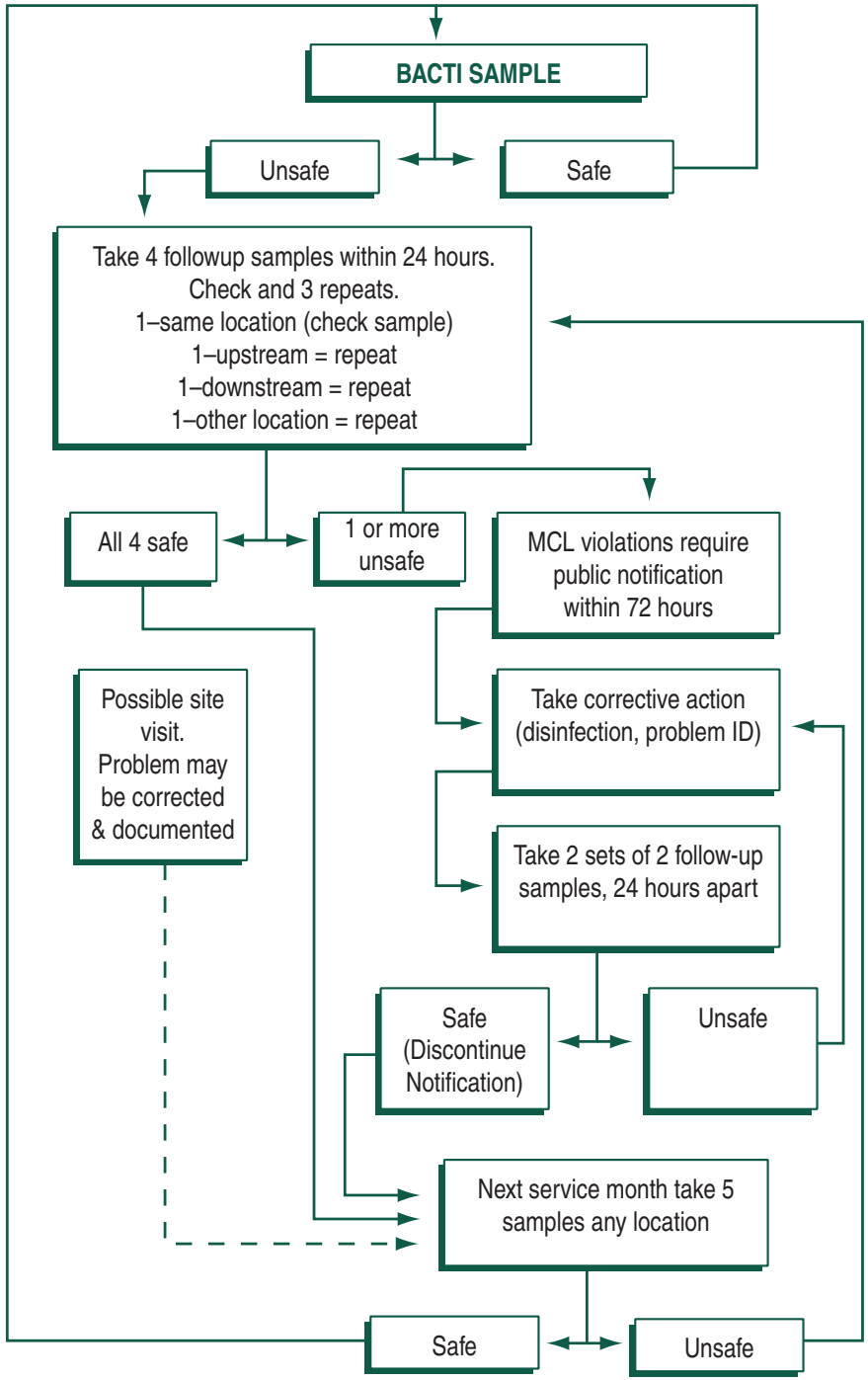
Contaminant	Minimum Monitoring Frequency	Health Risks
Bacteria	Annually or quarterly, or monthly, depending on system size and type	Total coliforms may indicate the presence of other diseases; symptoms include: diarrhea, cramps, nausea, and vomiting.
Nitrate	Annually	may cause "blue baby syndrome" in infants, (shortness of breath, blueness of skin), birth defects, miscarriages
Nitrite	One time	may cause "blue baby syndrome" in infants, (shortness of breath, blueness of skin), birth defects, miscarriages

Water samples must be analyzed at a laboratory certified for Safe Drinking Water analysis. A list is available from the DNR, or on the web at http:/ /www.dnr.state.wi.us/org/es/science/lc/search/ or by contacting your regional office.

What happens if I don't monitor correctly?

Failure to monitor within the proper schedule or failure to submit the results to the DNR violates the monitoring and reporting provisions of the SDWA and Wisconsin Administrative Code NR 809, Safe Drinking Water Act Standards. You will be required to post a public notice, describing the violation.

See page 16 for a flow chart of actions you must take if your bacteriological sample analysis comes back with coliform bacteria detected.



Maximum Contaminant Levels (MCLs)

The SDWA has standards that your drinking water must meet. These are called maximum contaminant levels (MCLs). The MCL is the maximum allowable level of a substance that you can deliver to the customer in your water. The following table has the most recent levels available as of this printing. MCLs can change with regulation changes, so if you're not sure or you have questions, contact a regional DNR Water Specialist or Program Assistant (See page 7).

Maximum Contaminant Levels for Drinking Water Contaminants

Contaminant	MCL
Regulated Compounds	
Bacteria	0
Nitrate	10 mg/L
Nitrite	1 mg/L

How will I know when my water has exceeded a MCL?

A Safe Drinking Water Act certified laboratory must perform all of the analyses required by the state drinking water regulations. Certified laboratories will know if any of your analysis results exceeded an MCL, and they will notify you of the results. In addition, results of all analyses must be submitted to the DNR within 10 days of receipt from the laboratory. The DNR reviews your results and informs you of any violations and follow-up sampling needed. (See the table on page 16 for follow-up procedures for an unsafe bacteria sample).

What do I do if my water exceeds a MCL?

If your water exceeds an MCL, you must issue a public notice to users of the system. You must also take immediate action to return the drinking water to a safe condition. The degree of follow-up action depends on the type and amount of contamination. The Department of Natural Resources will work closely with you to determine the degree of follow-up necessary for your water system.

Public Notification

When an MCL is exceeded, you must notify the public water system users of the condition. Contact your regional DNR public drinking water staff right away for public notification instructions. The notification must contain at a minimum, the contaminant found and its level, health effects of exposure, measures being taken to alleviate the problem, and the name and telephone number of someone who can provide the consumer with more information. This notice must be posted at all drinking water outlets. The type of notification required will depend on the severity of the contamination, the type of population being served, and the urgency of the situation. The DNR will help you determine what language to put in your notification.

Whenever you notify the public, make sure you forward a copy of that notification to your regional DNR drinking water staff person. The regional office staff working with your water system must be able to verify that notification was provided to customers in order for your system to be considered in compliance with this requirement.

A public notification rule handbook is available which outlines the public notification rules in an easy-to-read format and offers suggestions to systems on distribution options and includes a series of templates that apply to the most common violations for each type of system. It is available on-line at:

http://www.epa.gov/safewater/pws/pn/handbook.pdf

Change of Ownership Notification

If the ownership of your facility has changed or will change soon, please fill out the attached form and mail it to your DNR regional office. (Please see map and addresses on page 7). If you have an old mailing label, you can attach it and just fill in the new information.

PWS Number (if known)

System Name (Old and New)

Previous Owner

Previous Address

Previous phone/fax/e-mail

Previous Sampler

Previous Sampler Address

New Owner

New Owner Address

New phone/fax/e-mail

New Sampler

New Sampler Address

Publications to help you

***Water Words*—**Published by the DNR to keep operators of small drinking water systems informed about sampling schedules, issues, and requirements of the Safe Drinking Water Act.

Web sites referenced in handbook

Department of Natural Resources Web site:

http://www.dnr.state.wi.us

Department of Natural Resources Bureau of Drinking Water and Groundwater Web site:

http://www.dnr.state.wi.us/org/water/dwg/

The Environmental Protection Agency provides approved health affects language for public notification. This can be found in Wisconsin Administrative Code NR809, Safe Drinking Water Act Standards. EPA language for health effects for regulated contaminants is available on the EPA Web site:

http://www.epa.gov/OGWDW/hfacts.html

For more specific definitions of public water systems, read Wisconsin Administrative Code NR 809, Safe Drinking Water Standards. This is available at public libraries, DNR offices, or on the web at:

http://www.legis.state.wi.us/rsb/code/nr/nr800toc.html

A listing of regional offices is printed on page 7 in this handbook. For names of DNR personnel, call or visit the nearest regional office, or access the DNR Web site, at:

http://www.dnr.state.wi.us/org/water/dwg/regionstaff.htm

Water samples must be analyzed at a laboratory certified for Safe Drinking Water analysis. A list of these labs is available on the DNR's Web site at:

http://www.dnr.state.wi.us/org/es/science/lc/search/

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101 S. Webster Street
Box 7921
Madison, WI 53707-7921